## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

# **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento Bypass or North Levee	Right	1.74	04/17/2018 04/17/2018	Zach Jojola

LM Start		Rating **	Α	Issue No.		3		
LM End		Issue Type +	Ма	Location *		N/A		
Category	Earthen L	evee		GPS La	atituc	le/Longitude		
Calegory				Start		End		
Item		s & Maintena	nce		0		0	
пеш	Manuals				0		0	
DWR ID	DWR ID DWR_ST0008_01_s _ 2013_3							
		Comn	nent Cod	le				
			0					
		Inspecto	or Comm	nent				
The Sacra	mento Mai	intenance Yar	d has the	e O&M mar	nual	S.		

No Photos

LM Start		Rating **	Α	Issue No.		4	
LM End		Issue Type +	Ma	Location *	N/A		
Category	Earthen L	.evee		GPS La	atitud	e/Longitude	
Category				Start		End	
Item	Emergen		0		0		
пеш	Equipmer	nt			0		0
DWR ID	DWR_ST0	008_01_f _ 2017	7_4				
		Comn	nent Cod	de			
		Inspecto	nent				

No Photos

The Sacramento Maintenance Yard maintains a stockpile of flood response material.

N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain + Issue Type
Ma : Maintenance Deficiancy
Ob : Design & System Obsolescence
En : Enforcement

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

# **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento Bypass or North Levee	Right	1.74	04/17/2018 04/17/2018	Zach Jojola

LM Start		Rating **	Α	Issue No.	5		
LM End		Issue Type +	Ма	Location *	N/A		
Category	Earthen L	evee		GPS La	atitud	de/Longitude	
Calegory				Start		End	
Item	Flood Pre	paredness &		0		0	
пеш					0		0
DWR ID	DWR_ST0	008_01_s _ 201	3_5				
		Comn	nent Cod	le			
	Inspector Comment						
The Sacra	The Sacramento Yard has a written response plan and regular flood						

No Photos

Rating \*\* Issue No. 0.40 LM Start LM End 1.73 Issue Type + Location \* WS Earthen Levee GPS Latitude/Longitude Category End Start Vegetation 38.605010° 38.599469 ° Item -121.566808 ° -121.590155 ° DWR ID DWR\_ST0008\_01\_s \_ 2018\_7

Comment Code

V1: Control annual grass and weeds on the levee slopes and easements.

Inspector Comment



View of vegetation on the waterside slope. Spring 2018.

		D :: ++						
LM Start	0.51	Rating **	С	Issue No.		11		
LM End	0.51	Issue Type +	Ma	Location *		LS		
Earthen Levee				GPS La	titud	le/Longitude		
Category			Start		End			
Item	Encroach	ments		38.60447	73 °	38.604473 °		
iteiii				-121.5687	16°	-121.568716 °		
DWR ID	DWR_ST0	008_01_f _ 2017	7_11					
Comment Code								
GA : Garba	GA : Garbage							

fight training.

Inspector Comment

Couch on landside slope.

No Photos

* Location	** Rating		+ Issue Type
LS: Land Side N/A: Not Applicable	A : Acceptable	N : Not Inspected/Rated	Ma : Maintenance Deficiancy
WS: Water Side	M : Minimally Acceptable	C : Corrected	Ob : Design & System Obsolescence
CR : Crown	U : Unacceptable	A/W : Acceptable but Monitor & Maintain	En : Enforcement

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

# **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento Bypass or North Levee	Right	1.74	04/17/2018 04/17/2018	Zach Jojola

LM Start	1.09	Rating **	A/W	Issue No.	16		
LM End	1.09	Issue Type +	Ма	Location *			
Supplemental				GPS Latitude/Longitude			
Category		Start		End			
Item	DWR UCI	P LMA Respo	onsibility	38.60216	69°	38.602169°	
item				-121.57900	00°	-121.579000 °	
DWR ID	/R ID						
Comment Code							

## Inspector Comment

FS\_ID:44787 DS\_ID:19076 EP\_NO: N/A

Repair Type: No Action Needed Crossing Status: Found

UCIP Comments: A concrete saddle found on slough/drainage. No pump was found on LS and no structure/pipe found on WS. FIELD\_STRUCT\_DESC: \*ABANDONED\* 36-inch corrugated metal drainage pipe through the levee, at an unknown depth. Grouted in place. Remains of concrete structure found on the landside (LS). [Additional Reference(s): USACE Sacramento O&M Manual 122.1, August 1955, (RM 174)].

FS Date: 4/28/2015 2:44:05 PM

LM Start	1.09	Rating **	A/W	Issue No.	16 (cont)
LM End	1.09	Issue Type +	Ma	Location *	

# Photo 1 of 3 : UCIP\_SP\_2018\_44787\_20605.jpg

Landside view: overview

## Photo 2 of 3: UCIP\_SP\_2018\_44787\_20604.jpg



Landside view: remaining of concrete structure

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

## **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento Bypass or North Levee	Right	1.74	04/17/2018 04/17/2018	Zach Jojola

LM Start	1.09	Rating **	A/W	Issue No.	16 (cont)		
LM End	1.09	Issue Type +	Ма	Location *			
Supplemental				GPS Latitude/Longitude			
Calegory			Start		End		
Item	DWR UC	IP LMA Respo	onsibility	38.6021	69°	38.602169°	
пеш				-121.5790	00°	-121.579000°	
DWR ID							
	Comment Code						

## Inspector Comment

FS\_ID:44787 DS ID:19076 EP\_NO: N/A

Repair Type: No Action Needed Crossing Status: Found

UCIP Comments: A concrete saddle found on slough/drainage. No pump was found on LS and no structure/pipe found on WS. FIELD STRUCT DESC: \*ABANDONED\* 36-inch corrugated metal drainage pipe through the levee, at an unknown depth. Grouted in place. Remains of concrete structure found on the landside (LS). [Additional Reference(s): USACE Sacramento O&M Manual 122.1,

August 1955, (RM 174)] FS Date: 4/28/2015 2:44:05 PM



Landside view: remaining of concrete structure on drainage/slough

LM Start	1.15	Rating **	М	Issue No.	10		
LM End	1.73	Issue Type +	Ма	Location *	LS		
Category Earthen Levee				GPS Latitude/Longitude			
Category	egory					End	
Item	Vegetatio	n		38.60189	92°	38.599469°	
item				-121.5800°	18°	-121.590155 °	
DWR ID	R ID DWR_ST0008_01_s _ 2018_10						
Comment Code							

V1: Control annual grass and weeds on the levee slopes and easements

Inspector Comment

No Photos

LS : Land Side WS : Water Side	N/A: Not Applicable
WS: Water Side	
00 0	

\* Location

A : Acceptable : Minimally Acceptable

N: Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain + Issue Type

Ma: Maintenance Deficiancy Ob: Design & System Obsolescence En: Enforcement

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

# **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento Bypass or North Levee	Right	1.74	04/17/2018 04/17/2018	Zach Jojola

LM Start	1.22	Rating **	С	Issue No.		8	
LM End	1.23	Issue Type +	Ma	Location *			
Category	Supplemental			GPS La	atitud	le/Longitude	
Calegory	Category			Start		End	
Item	2017 Stor	m Damage		38.6015	97°	38.601538	0
пеш				-121.5811	88 °	-121.581402	0
DWR ID	DWR ID DWR_ST0008_01_f _ 2017_8						
	Comment Code						

Inspector Comment

Levee Evaluation Comments

Description: Site ID No:257

Site Designation:LMA-52 Repair Type: Stability

Rating:Critical

Field Date:6/5/2017 Notes: waterside levee slope failure / rotational failure ; mass extends 5

feet beyond toe

LM Start	1.22	Rating **	С	Issue No.		12	
LM End	1.22	Issue Type +	Ma	Location *		WS	
Category	Earthen L	evee		GPS La	atitud	le/Longitude	
Calegory				Start		End	
Item	Slope Sta	bility		38.601606°		° 38.601606	
item				-121.581240 °		-121.581240	0
DWR ID	DWR_ST0	008_01_s _ 201	7_12				
		Comn	nent Cod	le			
S1 : Repai	r slope ins	tability.					
		Inspecto	or Comm	nent			

Large sloughing site on waterside levee slope and crown.

No Photos

No Photos

N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain + Issue Type
Ma : Maintenance Deficiancy
Ob : Design & System Obsolescence

En : Enforcement

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

# **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento Bypass or North Levee	Right	1.74	04/17/2018 04/17/2018	Zach Jojola

LM Start	1.27	Rating **	С	Issue No.		9		
LM End	1.28	Issue Type +	Ma	Location *				
Category	Supplemental				GPS Latitude/Longitude			
Calegory				Start		End		
Item	2017 Stor	m Damage		38.6013	38°	38.601262	0	
пеш				-121.5820	26°	-121.582274	0	
DWR ID	DWR_ST0	008_01_f _ 2017	7_9					
		Comn	nent Cod	de				

Inspector Comment

Levee Evaluation Comments

Description: Site ID No:258

Site Designation:LMA-53

Repair Type: Stability Rating:Critical Field Date:6/5/2017

Notes: landside levee rotational slope failure; 2.5 feet vertical cut;

mass extends 5.5' beyond landside levee toe. Repaired as of inspection date.

LM Start	1.28	Rating **	С	Issue No.		13
LM End	1.28	Issue Type +	Ma	Location *		LS
Category	Earthen L	evee		GPS La	atitud	e/Longitude
Category				Start		End
Item	Slope Sta	bility		38.6013	25°	38.601325°
item				-121.582177 °		-121.582177°
DWR ID	DWR_ST0	008_01_s _ 201	7_13			
		Comn	nent Cod	le		
S1 : Repai	ir slope ins	tability.				
	Inspector Comment					
Sloughing	Sloughing on landside levee slope.					

No Photos

No Photos

N: Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain + Issue Type Ma : Maintenance Deficiancy
Ob : Design & System Obsolescence En: Enforcement

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

# Sacramento Maintenance Yard Sacramento Bypass

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento Bypass or North Levee	Right	1.74	04/17/2018 04/17/2018	Zach Jojola

	4 74	Dating **	A //A/	Issue No		4.5	
LM Start	1.74	Rating **	A/W	issue No.		15	
LM End	1.74	Issue Type +	Ma	Location *		WS	
Category	evee	GPS La	atitud	le/Longitude			
Calegory				Start		End	
Item	Erosion /	Bank Caving		38.5995	46°	38.599546°	
пеш		-121.590235 ° -121.5902					
DWR ID	DWR_ST0	008_01_s _ 201	8_15				
		Comn	nent Cod	le			
E1 : Note a	and monito	or erosion site					
Inspector Comment							
Runoff erosion on oversized levee section. Lcoated on waterside levee slope. Recommend monitoring.							



View of erosion on waterside slope. Spring 2017.

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

# **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sacramento Bypass or South Levee	Left	1.79	04/17/2018 04/17/2018	Zach Jojola

LM Start	0.03	Rating **	М	Issue No.		2	
LM End	0.03	Issue Type +	Ma	Location *		LS	
Category	Catagoria Earthen Levee GPS Latitude/Longitude						
Category				Start		End	
Item	Animal Co	ontrol		38.6026	13°	38.602613°	
пеш				-121.5560	21 °	-121.556021 °	
DWR ID	DWR ID DWR_ST0008_02_s _ 2016_2						
		Comn	nent Cod	de			
A3 : No rocompact o		le, but rodent rows.	burrows	visible; ne	ed to	backfill and	
		Inspecto	or Comm	nent			

		,, 0
		15/1
	Section 1	
	<b>1</b>	, 4 Z
11/10		
	7	
		2
	10 17 26	и7

Photo 1 of 2: SP\_2018\_ST0008\_285\_2\_20180306\_00004.jpg

Updated view of rodent holes on landside slope. Fall 2017.

 LM Start
 0.03
 Rating \*\*
 M
 Issue No.
 2 (cont)

 LM End
 0.03
 Issue Type +
 Ma
 Location \*
 LS

Photo 2 of 2 : SP\_2018\_ST0008\_285\_2\_20180306\_00005.jpg



View of rodent holes on LS slope of the levee near entry gate. Fall 2016..

LM Start	0.03	Rating **	U	Issue No.	9		
LM End	1.77	Issue Type +	Ма	Location *	LS		
Catagori Earthen Levee				GPS La	atituc	le/Longitude	
Category			Start		End		
Item	Vegetatio	egetation			99°	38.594798°	
пеш			-121.556036 °		-121.586466 °		
DWR ID	DWR_ST0	008_02_s _ 201	8_9				
		Comn	nent Cod	le			
V1 : Control annual grass and weeds on the levee slopes and easements.							
Inspector Comment							



View of vegetation on the landside slope. Spring 2018.

* Location	** Rating		+ Issue Type
LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	Ma : Maintenance Deficiancy Ob : Design & System Obsolescence En : Enforcement

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

# **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sacramento Bypass or South Levee	Left	1.79	04/17/2018 04/17/2018	Zach Jojola

LM Start	0.51	Rating **	М	Issue No.		10		
LM End	1.14	Issue Type +	Ma	Location *		WS		
Earthen Levee				GPS La	atitud	e/Longitude		
Category			Start		End			
Item	Vegetatio	n		38.6003	25°	38.597740 °		
пеш			-121.5643	81 °	-121.575582 °			
DWR ID	DWR ID DWR_ST0008_02_s _ 2018_10							
		Comn	nent Cod	le				
V1 : Contro easements		rass and wee	ds on th	e levee slo	oes a	and		
		Inspecto	or Comm	nent				

No Photos

LM Start	1.24	Rating **	М	Issue No.		11			
LM End	1.77	Issue Type +	Ma	Location *	WS				
Category Earthen Levee			GPS Latitude/Longitude						
Calegory				Start		End			
Item	Vegetation			38.59731	14°	38.594798 °			
пеш			-121.57739	96°	-121.586466 °				
DWR ID	DWR ID DWR_ST0008_02_s _ 2018_11								
Comment Code									
V1 : Control annual grass and weeds on the levee slopes and									

No Photos

easements.

Inspector Comment

N: Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain + Issue Type

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

# **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sacramento Bypass or South Levee	Left	1.79	04/17/2018 04/17/2018	Zach Jojola

LM Start	1.26	Rating **	A/W	Issue No.		1
LM End	1.79	Issue Type +	Ma	Location *		
Category				al GPS Latitude/I		
Calegory			Start		End	
Item	2017 Stor	m Damage		38.59702	23 °	38.594527 °
пеш	item				58 °	-121.586638 °
DWR ID DWR_ST0008_02_f _ 2017_1						
Comment Code						

#### Inspector Comment

Levee Evaluation Comments

Description: Site ID No:260

Site Designation:LMA-55 Repair Type: Erosion Rating:Area of Concern Field Date:6/5/2017

Notes: Minor wavewash on landside levee slope; no active erosion; no cross section taken, photo only. No visible damage observed during fall inspection.

LM Start	1.26	Rating **	A/W	Issue No.	1 (cont)
LM End	1.79	Issue Type +	Ma	Location *	



Photo 2 of 3: LEVAL\_SP\_2018\_260\_473.jpg



N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain + Issue Type

Ma : Maintenance Deficiancy
Ob : Design & System Obsolescence
En : Enforcement

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

# **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sacramento Bypass or South Levee	Left	1.79	04/17/2018 04/17/2018	Zach Jojola

LM Start	1.26	Rating **	A/W	Issue No.	1 (cont)			
LM End	1.79	Issue Type +	Ma	Location *				
Supplemental			GPS La	atitud	le/Longitude			
Calegory		Start		End				
Item	2017 Storm Damage			38.5970	23 °	38.594527	0	
пеш				-121.5775	58°	-121.586638	0	
DWR ID	DWR_ST0008_02_f _ 2017_1							
	Comment Code							

#### Inspector Comment

Levee Evaluation Comments

Description: Site ID No:260

Site Designation:LMA-55 Repair Type: Erosion Rating:Area of Concern Field Date:6/5/2017

Notes: Minor wavewash on landside levee slope; no active erosion; no cross section taken, photo only. No visible damage observed during fall inspection.



LM Start	1.28	Rating **	М	Issue No.	4	
LM End	1.28	Issue Type +	Ма	Location *	LS	
Category	Earthen L		GPS Latitude/Longitude			
Calegory			Start		End	
Item	Encroach		38.5971	38°	38.597138 °	
пеш			-121.5780	38°	-121.578038 °	
DWR ID	DWR ID DWR_ST0008_02_f _ 2017_4					
Comment Code						

TR: Tree or limb

Inspector Comment

Tree limb on landside slope.

No Photos

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

# **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sacramento Bypass or South Levee	Left	1.79	04/17/2018 04/17/2018	Zach Jojola

LM Start	1.35	Rating **	С	Issue No.		3	
LM End	1.36	Issue Type +	Ma	Location *			
Category	Suppleme	ental	ıl		GPS Latitude/Longitude		
Calegory				Start		End	
Item	2017 Stor	017 Storm Damage		38.5968	31 °	38.596772	0
пеш				-121.5792	16°	-121.579430	0
DWR ID	DWR_ST0	DWR_ST0008_02_f _ 2017_3					
		Comn	nent Cod	le			

## Inspector Comment

Levee Evaluation Comments

Description: Site ID No:259

Site Designation:LMA-54 Repair Type: Erosion Rating:Critical Field Date:6/5/2017

Notes: WS levee slope failure/rotational failure; 2.5 feet vertical drop at the hinge; mass extends 3 feet beyond levee toe; slope failure- need to update failure mode to slope instability. Repaired as of inspection date.

LM Start	1.36	Rating **	С	Issue No.		6		
LM End	1.36	Issue Type +	Ma	Location *		WS		
Category	Earthen Levee			GPS Latitude/Longitude				
Calegory				Start		End		
Item	Slope Sta	ope Stability			72 °	38.596772 °		
item				-121.579336 °		-121.579336 °		
DWR ID	DWR_ST0	008_02_s _ 201	7_6					
		Comn	nent Cod	le				
S1 : Repai	r slope ins	tability.						
		Inspecto	or Comm	nent				
100' slough	h section c	on waterside le	evee slop	oe.				
	•							

No Photos

No Photos

N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain + Issue Type

Ma : Maintenance Deficiancy
Ob : Design & System Obsolescence
En : Enforcement

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

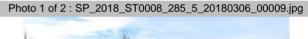
# **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sacramento Bypass or South Levee	Left	1.79	04/17/2018 04/17/2018	Zach Jojola

LM Start	1.54	Rating **	М	Issue No.		7	
LM End	1.54	Issue Type +	Ma	Location *		LS	
Category	Earthen L	evee		GPS La	atitud	e/Longitude	
Calegory			Start		End		
Item	Encroachments			38.5959	52°	38.595952 °	
item				-121.582557 °		-121.582557 °	
DWR ID	DWR_ST0	008_02_f _ 2017	7_7				
		Comn	nent Cod	le			
TR : Tree	or limb						
		Inspecto	or Comm	nent			
Tree trunk	Tree trunk and limbs on landside slope.						

No Photos

LM Start	1.77	Rating **	A/W	Issue No.		5	
LM End	1.77	Issue Type +	Ma	Location *		LS	
Category	Earthen Levee			GPS Latitude/Longitude			
Category			Start		End		
Item	Encroach	ments		38.594743°		38.594743 °	
item			-121.586556 °		-121.586556 °		
DWR ID	DWR_ST0	008_02_s _ 201	6_5				
		Comn	nent Cod	de			
PR : Prunings							
	Inspector Comment						
This is a s	easonal pi	le but gets bu	rned by 1	the LMA ea	ch y	ear.	





More debris was added to the pile since the time of last inspection. Fall 2016.

## Maintenance Issue Types Only, Levee Inspection Report By Mile - Spring 2018

# **Sacramento Maintenance Yard Sacramento Bypass**

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sacramento Bypass or South Levee	Left	1.79	04/17/2018 04/17/2018	Zach Jojola

LM Start	1.77	Rating **	A/W	Issue No.		5 (cont)
LM End	1.77	Issue Type +	Ma	Location *		LS
Cotagon Earthen Levee			GPS Latitude/Longitude			
Category						End
Item	Encroachments			38.5947	43°	38.594743 °
item		-121.586556 °		-121.586556 °		
DWR ID	DWR_ST0	DWR_ST0008_02_s _ 2016_5				
		Comn	nent Cod	le		
PR : Pruni	ngs					
Inspector Comment						
This is a seasonal pile but gets burned by the LMA each year.						
	, , , , ,					



View of the firewood on the landward side of the levee looking upstream. Spring 2016.

LM Start	1.77	Rating **	A/W	Issue No.		8	
LM End	1.77	Issue Type +	Ма	Location *		WS	
Category Earthen Levee			GPS Latitude/Longitude				
Calegory		Start		End			
Item	Erosion /	Frosion / Bank Caving			'10 °	38.594710	0
пеш	item		-121.5865	82°	-121.586582	0	
DWR ID	DWR_ST0008_02_s _ 2017_8						
Comment Code							

E1: Note and monitor erosion site.

## Inspector Comment

Runoff location, but not within the levee prism. Recommend monitoring.



View of erosion on waterside levee slope. Spring 2017.